

Chesapeake Bay Program's (CBP) Scientific and Technical Advisory Committee (STAC) September 2024 Quarterly Meeting Minutes September 10-11, 2024; Hybrid The Nature Inn at Bald Eagle in Howard, Pennsylvania <u>Meeting Webpage</u>

Attendance:

W = webinar – W

Members: Matt Baker (UMBC), Kathy Boomer (FFAR – W), John Bovay (VT – W), Chris Brosch (DE DA – W), Tony Buda (USDA-ARS), Shirley Clark (PSU), KC Filippino (HRPDC – W), Carl Friedrichs (VIMS), Kathy Gee (Longwood University – W), Christine Kirchhoff (PSU), Scott Knoche (Morgan State, PEARL – W), Ellen Kohl (UMBC), Yusuke Kuwayama (UMBC – W), Erin Letavic (Herbert, Rowland, & Grubic, Inc. [HRG]), Dave Martin (TNC – W), Greg Noe (USGS), Efeturi Oghenekaro (DOEE), Leah Palm-Forster (UD – W), Joe Reustle (Hampton University – W), Kenny Rose (UMCES – W), Mike Runge (USGS – W), Larry Sanford (UMCES), Amir Sharifi (DOEE), Tess Thompson (VT – W), Emily Trentacoste (EPA – W), Valerie Were (CIRA), Joe Wood (CBF), Weixing Zhu (Binghamton – W)

Guests: Christy Anderson (AECOM – W), Doug Austin (EPA – W), Greg Barranco (EPA – W), Jess Blackburn (Stakeholders' AC – W), Caitlin Bolton (Washington Council of Governments – W), Sarah Brzezinski (EPA – W), Camille Calure (Underwood and Associates), Elliott Campbell (MD DNR – W), Daniel Chao (LGAC – W), Peter Claggett (USGS – W), John Clune (USGS – W), Jeremy Cox (Bay Journal – W), Carly Dean (Chesapeake Conservance), Matt Ehrhart (Stroud Water Research Center), Melissa Fagan (CRC – W), Jason Fellon (PA DEP), Rachel Felver (Alliance for the Chesapeake Bay), Kendrick Flowers (USDA-NRCS), Tom Graupensperger (Dewberry – W), Amy Handen (EPA – W), Kirk Havens (VIMS), Jeremy Hanson (CRC – W), Chuck Herrick (Stakeholders' AC – W), Ashley Hullinger (PA DEP), Louis Keddell (Chesapeake Conservancy – W), Anna Killius (CBC – W), Caroline Kleis (CRC – W), Lew Linker (EPA – W), Lee McDonnell (EPA), Kevin McLean (CBP – W), Laura Cattell Noll (Alliance for the Bay – W), Kayli Ottomanelli (LGAC – W), Jeryl Phillips (VIMS), Bailey Robertory (CRC – W), Kristin Saunders (UMCES – W), Gary Shenk (USGS), James Spatz (PA DEP – W), Kathy Stecker (MDE – W), Ryan St Laurent (– W), Breck Sullivan (USGS), Patrick Thompson (Energy Works – W), Susan Yee (EPA – W), Tammy Zimmerman (USGS – W)

Administration: Meg Cole (CRC), Tou Matthews (CRC)

Tuesday, September 10th

Call to Order, STAC Business, Announcements – *Larry Sanford (STAC Chair – UMCES)* STAC Chair Larry Sanford (UMCES) called the meeting to order at 11:00am, beginning with a summary of the previous quarterly meeting and an outline of the day's meeting agenda. The June 2024 STAC Quarterly Meeting Minutes and May, June and August Executive Board Meeting Minutes were approved without comment.

DECISION: June 2024 Quarterly Meeting Minutes approved; May 2024 Executive Board Meeting Minutes, June 2024 Executive Board Meeting Minutes and August 2024 Executive Board Meeting Minutes approved.

Pennsylvania Rapid Stream Delisting Panel

–Jason Fellon (PA DEP), Carly Dean (Chesapeake Conservancy), Matt Ehrhart (Stroud Water Research Center)

Jason Fellon (PA DEP) presented on "<u>Partnership Approach to BMP Implementation</u>." The Northcentral Stream Partnership, composed of federal and state agencies, county conservation districts, and conservation organizations, was developed to address stream corridor erosion by implementing best management practices (BMPs). Within these projects, partnership entities work collaboratively with each other and with landowners to decrease accelerated erosion, improve and create aquatic habitats, and build lasting landowner relationships. Fellon shared examples of successful restoration projects across various partner counties. He emphasized how this collaborative model strengthens both ecological outcomes and community trust.

Carly Dean (Chesapeake Conservancy) presented on "<u>Pennsylvania's Rapid Stream Delisting</u> <u>Approach</u>." The Chesapeake Conservancy, in partnership with the Chesapeake Bay Program and other stakeholders, produced high-resolution land use/land cover data to inform restoration efforts. Using partner feedback, the Chesapeake Conservancy set a goal to delist impaired streams through an accessible, results-oriented, and community-driven strategy focused on prioritizing parcels for fastest recovery. Currently, 57 streams are targeted for restoration under this strategy, with a goal of delisting 30 by 2030. Progress is tracked through the <u>Rapid Stream</u> <u>Delisting Data Dashboard</u>. This strategy inspired the Maryland Whole Watershed Act and offers potential for adaptation elsewhere in the Bay watershed. Dean highlighted how the approach combines technical precision with community involvement to accelerate ecological recovery.

Matt Ehrhart (Stroud Water Research Center) presented on "<u>Aggregating Restoration Efforts</u> and Addressing Multiple Stressors in Small Watersheds to Achieve Ecosystem Response." Ehrhart acknowledged that current approaches to addressing impaired streams and rivers have proven inadequate and speculated whether the issue stems from insufficient intensity of interventions or missing information. The estuarine-driven restoration process has resulted in projects being distributed throughout watersheds but often lacks a comprehensive perspective on stressors. The Stroud Watershed Restoration Program adopts strategies to address multiple stressors, foster community dialogue, and enhance engagement with landowners. Projects balance the needs of farms and streams, instilling a sense of 'ownership' among landowners for watershed protection. Ehrhart emphasized that integrating science with local needs is key to achieving lasting ecosystem responses.

Discussion:

- Amir Sharifi (DC DOEE): How do you engage landowners?
 - Fellon: The site of the first project is visible from a trafficked road. The landowner of the site approached the district for help and the partnership was able to provide a solution. The landowners become advocates and salespeople for the partnership.
- Sanford: Are site delisting goals specifically related to the Bay Total Maximum Daily Load (TMDL) or based on other federal and state requirements as well?
 - Fellon: For this example, we are looking at a sediment impairment both the habitat and insect communities were depressed, and this project was seeking to address those impairments by removing the sediment sources, cleaning the substrate, and improving habitat and tree canopy. Overall, localized water quality is most important, , and then addressing impairments when possible.
- Shirley Clark (PSU): How do you target project sites within the watershed?
 - Fellon: Project sites depend on opportunity. The first landowner came to the partnership and afterward recommended us to other landowners. When we received a backlog of work, we started to prioritize where we thought the most feasible and functional farms to work on were.
- Sharifi: How do you keep the costs low on each project?
 - Fellon: All the work is done through a general permit; the level of permitting is very low. With so many partners, the cost of materials and installation is low.
- Tess Thompson (VT): Has the partnership considered or tried to save costs by just planting and regrading sites?
 - Fellon: The partnership applies whatever practice it thinks is needed at the site. Some streams are small enough that they have not been significantly degraded and fencing and planting is sufficient.
- Breck Sullivan (USGS): What is the Conservation Workforce?
 - Dean: One of the current barriers is an insufficient conservation workforce. The Chesapeake Conservancy is working with Susquehanna University to train people and provide paid on-the-job experience.
- Erin Letavic (HRG, Inc.): Why did the Chesapeake Conservancy get involved in Pennsylvania?
 - Dean: While the Chesapeake Conservancy had strong partnerships in Maryland and Virginia, we did not have an understanding of what partners in the Susquehanna River watershed needed. We thought it was important to include those needs in the data being produced for the Bay Program; the Pennsylvania partners also wanted the data in their community and had ideas on using it to guide restoration work.

- Greg Noe (USGS): Given that local stream health is not the only or primary goal, would local information about the actual stressor impacting local stream health change your approach of tailoring projects for landowners to gain their voluntary buy-in?
 - Ehrhart: It changes our approach to be more landscape-wide rather than channel or riparian zone-focused.
 - Dean: The targets set were not customized to the needs of every stream; they were chosen for the feasibility of BMPs. We need more research on what each stream might need and ideally develop a predictive model.
- Kendrick Flowers (USDA-NRCS): The USGS has a super gage network to measure water quality parameters. Are you using this information? Where are you getting the information about impaired sites to start new projects?
 - Fellon: The listed streams are already mapped and documented with known data. We are not necessarily recalibrating; impaired sites are reassessed every 10-12 years.
 - Dean: We also partner with colleges and universities to perform some of the stream monitoring.

Ecosystem Services 101: Using Quantified Ecosystem Services to Interface with and Engage the Public (Presentation Recording) – *Susan Yee (EPA)*

Susan Yee (EPA) presented on ongoing research aimed at developing and applying tools and approaches to link ecosystem restoration to social and economic benefits through ecosystem services. Resource managers and community partners require effective methods to inspire public action, determine local priorities, evaluate options to gain public support, monitor restoration progress, and communicate the success and benefits of completed projects. Ecosystem services serve as a bridge, connecting the environment to people; framing communication with a beneficiary-focused perspective reduces ambiguity about the benefits and their relevance to stakeholders. Yee's research provides frameworks, tools, and approaches that link restored ecological conditions to tangible social and economic benefits. She detailed the research program within the <u>Chesapeake Bay RESES</u>, which aims to promote the implementation of conservation BMPs in the upper watershed, and highlighted an ongoing project in Crisfield, Maryland, evaluating nature-based solutions to mitigate storm-related flooding. Yee emphasized the importance of aligning scientific insights with public engagement to enhance restoration outcomes.

Discussion of Recent STAC Quarterly Meeting Member Attendance – *STAC Staff*

STAC member in-person attendance at recent Quarterly Meetings has been low, with under 50% (18 members) of STAC membership attending the September 2023 Quarterly Meeting in Baltimore, MD, and approximately 35% (12 members) attending both the June 2024 Quarterly Meeting in Lorton, VA, and the September 2024 Quarterly Meeting in Howard, PA. While virtual attendance dominates, in-person attendance is encouraged to best facilitate discussion and

foster connections among members. The <u>STAC Bylaws</u>, which were not revised during the restructuring of meeting formats caused by the COVID-19 pandemic, currently only address consecutive meeting absences. STAC Staff asked members for feedback on constraints to attending in person, preferences for meeting formats, and realistic commitments regarding attendance. The goal is to refine meeting formats to better balance participation and accessibility.

STAC members discussed challenges in attending in-person meetings and proposed adjustments to meeting formats. Professors cited teaching obligations during the academic year, which often require canceling classes to attend in person. STAC Staff selects meeting locations with an emphasis on equity across the watershed, but this can result in significant travel burdens for some members. Membership agreed that the quality of participation and interaction during in-person meetings is notably higher than virtual attendance and identified field trips as a strong motivator for in-person participation. Members expressed a preference for shorter virtual meetings designed primarily for one-way information sharing, such as topical presentations. Proposals for in-person meetings included a three-day retreat-style meeting in June and a regularly recurring meeting held on a fixed date at a central location. Members requested more opportunities for input on meeting topics and greater detail in agenda descriptions.

Received STAC FY24 Workshop Proposals – STAC Staff

In June 2024, STAC released the STAC Workshop Request for Proposals (RFP) for the second round of STAC-funded workshops for the fiscal year 2024, which runs from June 1, 2024 to May 31, 2025. Approved workshops from the first round were "<u>Identifying Natural and Social</u> <u>Sciences Gaps to Support Market-Based Approaches to Chesapeake Bay Watershed</u> <u>Restoration</u>" and "<u>Leveraging artificial intelligence and machine learning to achieve Chesapeake</u> <u>Bay research and management: A review of status, challenges, and opportunities</u>."

For this second round, two proposals were submitted for consideration. The Scientific, Technical, and Reporting (STAR) team provided an evaluation of each proposal's relevance to Bay Program science needs. A summary of each received proposal and its objectives is outlined below.

Through the proposed workshop "Striped Bass Survey Assessment and Habitat Connections," the Sustainable Fisheries Goal Implementation Team (Fish GIT) seeks to investigate possible environmental and ecological factors of low recruitment in striped bass, review current survey approaches, and identify priority science needs. The workshop also aims to evaluate habitat-related drivers and potential connections to climate change impacts. The outcomes of this workshop would support governmental and fisheries organizations, inform habitat and climate change, and guide the next iteration of fish habitat.

Through the proposed workshop "Blueprint for building partnerships and recommendations for scaling brook trout restoration in stronghold and persistent patches," the Brook Trout Workgroup seeks to provide a local jurisdictional, multi-state, and federal restoration plan for extant brook trout populations in persistent and stronghold patches in specific counties in Pennsylvania and Maryland. The workshop plans to engage stakeholders from various sectors to identify shared goals and strategies for integrating restoration efforts with broader conservation initiatives. This workshop will identify and synthesize the science needed, and local considerations and needs, to develop an actionable large-scale restoration plan to increase brook trout occupancy, abundance and resiliency within and among stronghold and/or persistent patches in priority geographies in Pennsylvania and Maryland.

DECISION: STAC approved the FY24 STAC Workshop Proposals:

"Striped Bass Survey Assessment and Habitat Connections."

"Blueprint for building partnerships and recommendations for scaling brook trout restoration in stronghold and persistent patches."

Updates on STAC Coordination with CBP and other Advisory Committees – *STAC Staff* STAC members Efeturi Oghenekaro (DC DOEE) and Tony Buda (USDA-ARS) provided updates from the Action Team meetings on development of the Chesapeake Bay Program Agricultural Advisory Committee. STAC Staff shared an update on recent collaboration across STAC, the Stakeholders' Advisory Committee (Stakeholders' AC), and the Local Government Advisory Committee (LGAC). The advisory committees sent two joint letters to the Principals' Staff Committee (PSC): <u>the first letter</u>, sent in February 2024, addressed a commitment of collaboration between the advisory committees and requested increased engagement with Chesapeake Bay Program (CBP) leadership; and the second letter, sent in April 2024, proposed specific changes to the interaction between the PSC and advisory committee chairs and staff meet continue to meet monthly to discuss aligning the committees' efforts.

<u>Hyper-res Hydrography for the CBW: More than just A LOT more blue lines (Presentation</u> <u>Recording</u>)

– Matt Baker (UMBC)

Matt Baker (UMBC) presented on hyper-resolution hydrography, in which the location of stream channels are mapped using terrain. Baker and his team have developed a program capable of analyzing features on lidar elevation maps to produce data layers that display detailed water channel networks. The advantages of this technique is that it is able to perform a direct detection of channel features, high precision in alignment and dimensions, and is able to connect channels even when data is discontinuous. The application is able to rapidly map broad landscapes, with the potential to map the entire Chesapeake Bay watershed in as little as

ten days. Baker emphasized that this type of mapping represents a paradigm shift in how scientists approach stream delineation and determine important features and attributes.

Discussion:

- Sanford: How does a broader, more fractal stream network affect flow dynamics?
 - Baker: The representation of the network changes our perception of flow dynamics. We have more information than the modelers who developed the older models and we need to carefully decide how to apply it.
 - Gary Shenk (USGS): We are unsure how this information will impact our understanding of transport, flow, or other hydrographic factors.
 - Clark: Also consider that there are small pockets throughout the watershed where storm sewers, which are not detectable by terrain mapping, affect water flow, supply, and flooding.
 - Letavic: There are a number of communities in Pennsylvania that have their storm sewer networks mapped.
 - Baker: I agree that this is important. The goal of this project was to better delineate channel networks and automation can only do so much. We do have the capacity to incorporate existing connectivity into the program.
- Friedrichs: Will connection to groundwater be considered in the future?
 - Baker: Many of the features that we map do not have plenty of flow, such as gullies that dry out during the year. The Bay Program is interested in improving understanding of flow regime as water moves across different physiographic regions of land surface.
- Letavic: The rate of erosion of streams has been of interest in municipal work; having multiple data sets that are easy to produce and easy to compare would be very helpful.
 - Baker: The mapping can be done on earlier LiDAR surveys as well.
- Buda: Is there any field verification happening as well?
 - Baker: We previously surveyed 100 different headwater watersheds throughout the Bay and compared several terrain analysis techniques. We have also done some accuracy assessments, though it is a challenge to assess a network where channel definition is subjective (e.g. flood plain drainage channels).
- Flowers: Farmers might be apprehensive to see blue lines mapped on their farms. How would you address this?
 - Baker: I would inform them that the map is showing drainage-like features, and each stream needs to drain its land. This applies to residential areas as well.
- Tom Graupensperger (Dewberry) [chat]: Thoughts on integrating satellite soil moisture into the model for wetlands and seeps identification in floodplains and headwater areas?

 Baker [chat]: We have proposed to develop a flow permanence classification that will use remotely sensed indices as well as other existing predictors to develop some idea of how 'blue' these lines are.

Wednesday, September 11th

Lightning Round: STAC Member Expertise Contribution to Beyond 2025

STAC members each briefly shared their areas of expertise and specified places from the <u>draft</u> <u>Beyond 2025 report</u> and the <u>Beyond 2025 Small Group Findings and Considerations</u> where they could contribute to further conservation and restoration efforts in within the Chesapeake Bay and watershed.

STAC Letter to the PSC on the draft Beyond 2025 report

– Larry Sanford (UMCES)

The three Bay Program advisory committees each submitted a letter in response to the <u>draft</u> <u>Beyond 2025 report</u>. Chuck Herrick (Stakeholders' AC Chair) and Daniel Chao (LGAC Chair) provided briefings to STAC on the <u>Stakeholders' AC letter</u> and <u>LGAC letter</u> with comments on the draft Beyond 2025 report and recommendations to strengthen the Beyond 2025 process. Sanford reiterated the <u>STAC letter</u>, previously submitted to the Beyond 2025 Steering Committee and the PSC. The first letter was written by the <u>Comprehensive Evaluation of</u> <u>System Response</u> (CESR) Outreach Committee and highlights three main points: recognize and respond to the challenges of generating enough pollutant reductions from non-point sources to meet Bay water quality goals, increasing management focus on living resources, and improve adaptive management in the Bay Program. STAC will submit a second letter to the PSC as repeated messaging can have a greater impact.

The Bay Beyond 2025: Update on Comments and Next Steps

- Rachel Felver (Alliance for the Chesapeake Bay)

Chesapeake Bay Program Communications Director Rachel Felver (Alliance for the Chesapeake Bay) provided a summary of the <u>comments received on the draft Beyond 2025 report</u> during the public comment period. Felver received a total of 538 unique comments from 81 total commenters, along with additional individual emails submitted by the Chesapeake Bay Foundation and Waterkeepers Chesapeake supporters in response to an action alert. The majority of feedback was for out-of-scope topics or topics expected to be addressed in Phase 2.

Common themes among comments were conservation, public engagement and transparency, communications and partnership, prioritization and accountability, watershed management and restoration, emerging science and issues, land use and sustainability, climate resiliency and environmental justice, and jargon and clarity. The Beyond 2025 Steering Committee will review the comments and revise the draft report through September and the PSC will finalize the edits in early October. The EC will decide on approval of the recommended EC Action at the December 10 EC meeting.

Discussion:

- Herrick [chat]: Will the advisory committees receive a response to their recommendations?
 - Felver: Responses will not be issued due to the tight timeframe. Both the raw comments and the redline version of comments will be posted online so that changes can be viewed.
- Letavic: For those involved in the Beyond 2025 discussions, what are your reactions to the summary Felver provided and the advisory committee comments?
 - Sullivan: I helped write the draft, and there were many opinions on how the report should be written. I understand comments about it containing too much jargon, and the report was not necessarily written for lay people.
- Baker: Does the reference to "continued commitment to the 2014 Agreement" imply that there will not be an assessment and reevaluation as recommended by the CESR report?
 - Felver: I am unsure if this has been fully envisioned yet. I was under the impression that we would bring together all the current signatories of the Watershed Agreement to restate their dedication to meeting the 31 Goals and Outcomes, or any revisions to the Agreement.
 - Sanford: The Beyond 2025 Steering Committee seemed to agree that the current Watershed Agreement would benefit from modification, but a full revision is not required.
- Friedrichs: What about the report did people like the most?
 - Felver: I saw many comments supporting the continued commitments to the partnership by the EC members as well as finalizing the report by 2025. There was also support for conservation, addressing climate change, streamlining the partnership, and potentially changing our governance to be more efficient and effective.

Proposed STAC-led Social Science Workgroup

– STAC Staff

STAC Staff updated STAC on the potential formation of a STAC-led Social Science Workgroup (SSWG). The Bay Program has placed an increased emphasis on applying social science for better engagement and decision-making during this pivotal time for the partnership, though there is a recognized gap in incorporating social science into Bay Program efforts. This workgroup could serve as a dedicated source of expertise to advise on issues related to human behavior, governance, and community engagement.

The CRC could provide resources, including funds and administrative support, to facilitate the workgroup's initiatives. The provision within the <u>STAC Operational Guidelines</u> provide guidance

on establishing a standing workgroup. STAC members with social science expertise recently held a preliminary meeting to discuss the scope of the workgroup and outline its roles and responsibilities. STAC was asked for feedback on forming an SSWG and whether it would be the best avenue for exploring CBP and partnership needs.

Discussion:

- Sanford: There have been discussions about the Bay Program not defining what social science means to them. I think providing a definition and specific ways in which social sciences can interface with the Bay Program would be an ongoing theme for this group.
- Shenk: The standing workgroup framework was already written into STAC's Bylaws but went unutilized. The SSWG would also be an opportunity to test whether this structure is effective.
- Ellen Kohl (UMBC): I have been a part of STAC for over two years and still am uncertain of my role on the committee. I believe I have important things to add but I'm not sure how to do it; the SSWG would be a vehicle to think critically about how to better integrate social sciences into STAC.
- Christine Kirchhoff (PSU): The SSWG approach has an advantage of gathering various expertise. From experience in other advisory roles, social scientists tend to be the lone voice trying to represent a diversity of perspectives.
- Scott Knoche (Morgan State, PEARL): This workgroup will be particularly helpful as it relates to a focus on DEI. Much of the current work centers on inclusion and sufficient representation; the SSWG can add input on equity and recognizing trade-offs in decision making.
- Jess Blackburn (Stakeholders' AC) [chat]: The Stakeholders' AC has three standing committees that select annual priorities and drive the recommendations that are presented to the EC each year.
- STAC Staff: STAC members with social science expertise will meet again to discuss establishing a SSWG. A formal charge for the SSWG will be presented to STAC at the December Quarterly Meeting, and STAC will vote to approve the document.

Revisions for Second STAC Letter to the PSC

In-person and virtual participants separated into breakout groups to workshop a second letter to the PSC. Discussion was prompted by the following questions:

- 1. Which points from the first STAC Letter to the PSC should be reiterated?
- 2. Which public comments on the draft Beyond 2025 report should be highlighted in the second STAC Letter to the PSC?

Report Out from Breakout Groups:

Kathy Boomer (FFAR) reported on behalf of the first virtual breakout group. The group recommended that the second letter emphasize urgency, highlighting the need for bold actions

to address climate change threats. They also proposed acknowledging the regulatory constraints that may limit action while strengthening connections between recommendations and specific report elements. Suggestions for the draft Beyond 2025 report helping the community better understand regulatory constraints, clarifying the relationship between Small Groups and their recommendations, and explaining how the CESR report supports overarching conclusions.

John Bovay (VT) reported out on behalf of the second virtual breakout group. The group group proposed revising the letter's format and language to highlight the significance of living resources to communities. They suggested increasing attention on living resources as a way to rethink Bay Program goals, shifting focus from milestones to outcomes. Additionally, they recommended providing examples of effective adaptive management, incorporating equity and justice considerations noted in public comments, and linking watershed goals with efforts to address climate challenges.

Tony Buda (USDA-ARS) reported on behalf of the first in-person breakout group. The group recommended including a concise elevator pitch summarizing key points, emphasizing the importance of living resources, and providing clear examples of adaptive management to strengthen the letter.

Sanford reported on behalf of the second in-person breakout group. The group suggested urging the Bay Program to incorporate social sciences in its reorganization process and proposed that STAC act as an advisory body during Phase 2 of Beyond 2025.

DECISION: STAC leadership will finalize and submit the STAC letter to the PSC by early October.

Wrap-Up

The <u>STAC 2024 December Quarterly Meeting</u> will take place virtually on Tuesday and Wednesday, December 3rd and 4th.